CONTENTS OF VOLUME 26

M. D. Muñoz, O. Herreras, A. S. Herranz, J. M. Solís, R. Martín del Río and J. Lerma	Effects of dihydrokainic acid of extracellular amino acids and neuronal excitability in the *in vivo* rat hippocampus	1
H. Shinozaki, K. Hirate and M. Ishida	Modification of drug-induced tremor by systemic administration of kainic acid and quisqualic acid in mice	9
P. Kontro and S. S. Oja	Effects of the anticonvulsant taurine derivative, taltrimide, on membrane transport and binding of GABA and taurine in the mouse cerebrum	19
H. J. Little, D. J. Nutt and S. C. Taylor	Selective changes in the *in vivo* effects of benzodiazepine receptor ligands after chemical kindling with FG 7142	25
P. W. Kalivas, D. Stanley and A. J. Prange Jr	Interaction between thyrotropin-releasing hormone and the mesolimbic dopamine system	33
Alison Round and D. I. Wallis	Further studies on the blockade of 5-HT depolarizations of rabbit vagal afferent and sympathetic ganglion cells by MDL 72222 and other antagonists	39
J. Yamada, Y. Sugimoto and K. Horisaka	The behavioural effects of intravenously administered tryptamine in mice	49
Y. Kataoka, H. Ohta, M. Fujiwara, R. Oishi and S. Ueki	Noradrenergic involvement in catalepsy induced by Δ^9-tetrahydrocannabinol	55
G. B. Frank and T. S. Sudha	Effects of enkephalin, applied intracellularly, on action potentials in vertebrate A and C nerve fibre axons	61
A. Dray, L. Nunan and W. Wire	Naloxonazine and opioid-induced inhibition of reflex urinary bladder contractions	67
G. Nisticò, G. B. De Sarro, G. Bagetta and E. E. Müller	Behavioural and electrocortical spectrum power effects of growth hormone releasing factor in rats	75
G. Meisenberg and W. H. Simmons	Specific antagonists of the acute behavioral response to centrally-administered vasopressin in mice	79
H. S. Sharma	Effect of captopril (a converting enzyme inhibitor) on blood–brain barrier permeability and cerebral blood flow in normotensive rats	85
Preliminary Notes		
E. Edwards and P. M. Whitaker-Azmitia	Selective β-antagonists are equally and highly potent at 5-HT in the rat hippocampus	93
G. A. Ricaurte, L. E. DeLanney, I. Irwin and J. W. Langston	Older dopaminergic neurons do not recover from the effects of MPTP	97
E. Pileblad and A. Carlsson	The Ca^{++}-antagonist nimodipine decreases and the Ca^{++}-agonist Bay K 8644 increases catecholamine synthesis in mouse brain	101
Th. Simmet, A. Seregi and G. Hertting	Formation of sulphidopeptide-leukotrienes in brain tissue of spontaneously convulsing gerbils	107

NUMBER 2/3

S. Ramaswamy and J. S. Bapna	Effect of prolactin on tolerance and dependence to acute administration of morphine	111
M. Bartoletti, M. Gaiardi, C. Gubellini, A. Bacchi and M. Babbini	Previous treatment with morphine and sensitization to the excitatory actions of opiates: dose–effect relationship	115
M. Hirst and M. Kavaliers	Levorphanol but not dextrorphan suppresses the foot-lifting response to an aversive thermal stimulus in the terrestrial snail, *Cepaea nemoralis*	121

J. Machová	Actions of vasoactive intestinal polypeptide in superior cervical ganglion of the cat	125
L. Kapás, F. Obál Jr, B. Penke and F. Obál	Cholecystokinin-octapeptide-induced hypothermia in rats: dose–effect and structure–effect relationships, effect of ambient temperature, pharmacological interactions and tolerance	131
S. J. Peroutka, M. D. Mauk and J. D. Kocsis	Modulation of neuronal activity in the hippocampus by 5-hydroxytryptamine and 5-hydroxytryptamine$_{1A}$ selective drugs	139
J. H. Coote, D. W. Dalton, W. Fenuik and P. P. A. Humphrey	The central site of the sympatho-inhibitory action of 5-hydroxytryptamine in the cat	147
F. D. Pagani, J. A. DiMicco, B. L. Hamilton, J. D. Souza, B. Schmidt and R. A. Gillis	Stress-induced changes in the function of the parasympathetic nervous system are mimicked by blocking GABA in the CNS of the cat	155
R. G. Fariello and G. T. Golden	The THIP-induced model of bilateral synchronous spike and wave in rodents	161
G. G. S. Collins and J. Anson	Effects of barbiturates on responses evoked by excitatory amino acids in slices of rat olfactory cortex	167
Susan M. Jones, L. D. Snell and K. M. Johnson	Inhibition by phencyclidine of excitatory amino acid-stimulated release of neurotransmitter in the nucleus accumbens	173
Angelika Scheucher, C. J. Pirola, María S. Balda, Susana M. Dabsys, Azucena L. Alvarez, S. Finkielman and V. E. Nahmod	Muscarinic M1 receptors in the lateral septal area mediate cardiovascular responses to cholinergic agonists and bradykinin: supersensitivity induced by chronic treatment with atropine	181
N. T. Maidment and C. A. Marsden	Acute administration of clozapine, thioridazine and metoclopramide increases extracellular DOPAC and decreases extracellular 5-HIAA, measured in the nucleus accumbens and striatum of the rat using *in vivo* voltammetry	187
B. Costall, C. A. Hendrie, M. E. Kelly and R. J. Naylor	Actions of sulpiride and tiapride in a simple model of anxiety in mice	195
J. W. Griffiths and A. J. Goudie	Analysis of the role of behavioural factors in the development of tolerance to the benzodiazepine midazolam	201
M. E. Newman and R. H. Belmaker	Effects of lithium *in vitro* and *ex vivo* on components of the adenylate cyclase system in membranes from the cerebral cortex of the rat	211
T. U. C. Järbe and A. J. Hiltunen	Cannabimimetic activity of cannabinol in rats and pigeons	219
G. A. Gray, D. Hedley and R. G. Pertwee	Enhancement of the hypothermic response of mice to delta-9-tetrahydrocannabinol by subhypothermic doses of chlorpromazine and phentolamine	229
M. Hong, P. Jenner and C. D. Marsden	Comparison of the acute actions of amine-depleting drugs and dopamine receptor antagonists on dopamine function in the brain in rats	237
M. K. Menon, C. K. Kodama, J. T. Cummins and K. Von Hungen	Studies on the interaction between ethanol and amfonelic acid	247
H. Przuntek, M. E. Westarp, M. L. Vohl, M. Gerlach, P. Jutzi and H. Wekerle	The effect of silyl substituted methotrexate in the treatment of experimental allergic encephalomyelitis in rats mediated by T-line cells	255
Preliminary Notes		
T. E. Albertson and W. F. Walby	The effect of exogenous GM_1 ganglioside on kindled-amygdaloid seizures	261
S. E. McPherson, P. Loo, A. Braunwalder and P. L. Wood	Enhancement of the *in vivo* binding of [^{3}H]flunitrazepam by the atypical neuroleptic, clozapine	265
N. R. Banna, H. A. Al-Amin and S. J. Jabbur	Selective inhibition of nociceptive flexion reflex discharge by the kappa agonist bremazocine	271
S. Dolin, H. Little, M. Hudspith, C. Pagonis and J. Littleton	Increased dihydropyridine-sensitive calcium channels in rat brain may underlie ethanol physical dependence	275
Erratum		I
Announcements		III

NUMBER 4

R. Zaczek, Stephanie Arlis, Andrea Markl, T. Murphy, Harriet Drucker and J. T. Coyle	Characteristics of chloride-dependent incorporation of glutamate into brain membranes argue against a receptor binding site	281
R. G. Hill, J. Hughes and K. M. Pittaway	Antinociceptive action of cholecystokinin octapeptide (CCK 8) and related peptides in rats and mice: effects of naloxone and peptidase inhibitors	289
Kathleen A. Pelley and J. L. Vaught	An antinociceptive profile of kojic amine: an analogue of γ-aminobutyric acid (GABA)	301
O. B. Fasmer, C. Post and K. Hole	Changes in nociception after acute and chronic administration of zimeldine: different effects in the formalin test and the substance P behavioural assay	309
D. J. Heal, N. Stoodley, J. M. Elliott, C. A. Marsden, G. W. Bennett and M. B. H. Youdim	Behavioural and biochemical evidence for the release of noradrenaline in mouse brain by TRH and some of its biologically stable analogues	313
J. Duan and J. Sawynok	Enhancement of clonidine-induced analgesia by lesions induced with spinal and intracerebroventricular administration of 5,7-dihydroxytryptamine	323
T. Suppes and R. D. Pinnock	Sensitivity of neuronal dopamine response in the substantia nigra and ventral tegmentum to clozapine, metoclopramide and SCH 23390	331
C. J. Fowler, O. Magnusson, G. Thorell, B. Mohringe and R.-B. Huang	Dopamine turnover and glutamate decarboxylase activity in the rat brain after acute and chronic treatment with raclopride, a dopamine D_2-selective antagonist	339
M. E. Weller, S. Rose, P. Jenner and C. D. Marsden	*In vitro* characterisation of dopamine receptors in the superior colliculus of the rat	347
E. Ongini and M. G. Caporali	Differential effects of dopamine D-1 and D-2 receptor agonists on EEG activity and behaviour in the rabbit	355
S. M. Leventer, E. Wulfert and I. Hanin	Time course of ethylcholine aziridinium ion (AF64A)-induced cholinotoxicity *in vivo*	361
J. F. Ghersi-Egea, B. Walther, D. Decolin, A. Minn and G. Siest	The activity of 1-naphthol-UDP-glucuronosyltransferase in the brain	367
K. Takahama, K. Satoh, J. Kaisaku, T. Hashimoto, N. Akaike, Y. Okano, Y. Kasé and T. Miyata	Piperidine: a microelectrophoretic study in the mammalian brain	373
M. Egawa, S. Ikegami, Y. Hanada and A. Tobe	Effects of bifemelane hydrochloride on cortical neuronal activity in cats	379
L. C. Sellin and P. S. Laakso	Antagonism of ethanol-induced depressant effects by 4-aminopyridine in the central nervous system of the rat	385
J. M. Donald, M. G. Cutler and M. R. Moore	Effects of lead in the laboratory mouse. Development and social behaviour after lifelong exposure to 12 μM lead in drinking fluid	391
Announcement		i

NUMBER 5

A. N. Guantai, J. W. Mwangi, Gichuru Muriuki and K. A. M. Kuria	Effects of the active constituents of *Catha edulis* on the neuromuscular junction	401
A. Shekhar and J. A. DiMicco	Defense reaction elicited by injection of GABA antagonists and synthesis inhibitors into the posterior hypothalamus in rats	407
P. J. Elliott and S. D. Iversen	Substance-P antagonists: effect on spontaneous and drug-induced locomotor activity in the rat	419
P. J. Gatti, A. M. T. DaSilva and R. A. Gillis	Cardiorespiratory effects produced by injecting drugs that affect GABA receptors into nuclei associated with the ventral surface of the medulla	423
S. H. Zorn and S. J. Enna	The GABA agonist THIP, attenuates antinociception in the mouse by modifying central cholinergic transmission	433

D. Budai and P. Kása	Effects of trifluoperazine on the cholinergic function of the hippocampus of the rat	439
K. C. Retz, M. J. Forster, N. Frantz and H. Lal	Differences in behavioral responses to oxotremorine and physostigmine in New Zealand black (NZB/B1NJ) and C57BL/6 mice	445
D. F. Bottiglieri and E. M. Meyer	Effects of dipalmitoylphosphatidylcholine liposomes on high affinity transport of choline and synthesis of acetylcholine in cerebral cortical synaptosomes in the rat	453
R. Schwarting and J. P. Huston	Short-term effects of ether, equithesin and droperidol/fentanyl on catecholamine and indolamine metabolism in the brain of the rat	457
G. A. Young, O. Hong and N. Khazan	Differential tolerance to repeated daily injections of N-allylnormetazocine and its enantiomers in the rat	463
I. Briggs and Julie C. Barnes	Actions of opioids on the dorsal root potential of the isolated spinal cord preparation of the neonate rat	469
M. Memo, M. Pizzi, C. Missale, M. O. Carruba and P. F. Spano	Modification of the function of D_1 and D_2 dopamine receptors in striatum and nucleus accumbens of rats chronically treated with haloperidol	477
D. R. Liskowsky and L. T. Potter	Dopamine D_2 receptors in the striatum and frontal cortex following chronic administration of haloperidol	481
A. Belyavin and A. N. Nicholson	Rapid eye movement sleep in man: modulation by benzodiazepines	485
L. P. Davies, Judy Baird-Lambert and J. G. Hall	1-Methylisoguanosine: interaction with central adenosine receptors and lack of antagonism of its *in vivo* effects by a benzodiazepine antagonist	493
D. J. Sanger and B. Zivkovic	Discriminative stimulus properties of chlordiazepoxide and zolpidem. Agonist and antagonist effects of CGS 9896 and ZK 91296	499
A. C. Howlett	Cannabinoid inhibition of adenylate cyclase: relative activity of constituents and metabolites of marihuana	507

NUMBER 6

D. A. Kendall and S. R. Nahorski	Depolarisation-evoked release of acetylcholine can mediate phosphoinositide hydrolysis in slices of rat cerebral cortex	513
Marta Hallak and E. Giacobini	A comparison of the effects of two inhibitors on brain cholinesterase	521
M. Hamon, H. Gozlan, S. Bourgoin, J. J. Benoliel, A. Mauborgne, H. Taquet, F. Cesselin and J. A. Mico	Opioid receptors and neuropeptides in the CNS in rats treated chronically with amoxapine or amitriptyline	531
C. P. France, Jill U. Adams and J. H. Woods	Comparison of naltrexone and quaternary naltrexone after systemic and intracerebroventricular administration in pigeons	541
D. Valtier, C. Malgouris, J.-C. Gilbert, P. Guicheney, A. Uzan, C. Gueremy, G. Le Fur, H. Saraux and P. Meyer	Binding sites for a peripheral type benzodiazepine antagonist ([^{3}H]-PK 11195) in human iris	549
J. A. DiMicco	Evidence for control of cardiac vagal tone by benzodiazepine receptors	553
C. J. Pirola, Angelika Scheucher, María S. Balda, Susana M. Dabsys, S. Finkielman and V. E. Nahmod	Serotonin mediates cardiovascular responses to acetylcholine, bradykinin, angiotensin II and norepinephrine in the lateral septal area of the rat brain	561
R. W. Rockhold, C. Jin, H.-M. Huang and J. M. Farley	Acute tachycardia and pressor effects following injections of kainic acid into the antero-dorsal medial hypothalamus	567
M. Orosco, M. C. Rybarczyk, C. Rouch, Y. Cohen and C. Jacquot	Cholecystokinin and bombesin in vagotomized or intact lean and obese rats: effects on neurotransmitters in brain	575
E. Brodin, S. O. Ögren and E. Theodorsson-Norheim	Effects of subchronic treatment with imipramine, zimelidine and alaproclate on regional tissue levels of substance P- and neurokinin A/neurokinin B-like immunoreactivity in the brain and spinal cord of the rat	581

L. C. Murrin and R. H. Roth	Nigrostriatal dopamine neurons: modulation of impulse-induced activation of tyrosine hydroxylation by dopamine autoreceptors	591
Paula C. Bickford-Wimer, Karen Parfitt, B. J. Hoffer and R. Freedman	Desipramine and noradrenergic neurotransmission in aging: failure to respond in aged laboratory animals	597
J. B. Chapman and M. G. Cutler	Sodium valproate: effects on maternal behaviour in the mouse	607
B. S. Starr and M. S. Starr	Behavioural interactions involving D_1 and D_2 dopamine receptors in non-habituated mice	613
T. Sugimori, H. Nagashima, E. S. Vizi, L. G. Harsing Jr, I. Chaudhry, I. Lalezari, D. Duncalf, P. L. Goldiner and F. F. Foldes	Effect of mono- and diaminopyridines on release of [^{3}H]norepinephrine from isolated guinea-pig atrium	621
A. Valenzuela, A. Pla and E. Villanueva	Effects of chronic administration of dextroamphetamine on enzymes of energy metabolism in regions of the rat brain	627
Preliminary Notes		
E. Chung, H. C. Li, M. H. Van Woert and W. S. Chan	Ca^{2+}/calmodulin-dependent phosphoprotein phosphatase activity of calcineurin in rat striatum: effect of kainic acid lesions	633
J. S. Lamont, N. S. Kula and R. J. Baldessarini	Effects of cations on high-affinity binding of ^{3}H-ADTN to dopaminergic sites in calf caudate tissue	637
B. G. Weick and J. R. Walters	D-1 dopamine receptor stimulation potentiates neurophysiological effects of bromocriptine in rats with lesions of the nigrostriatal dopamine pathway	641
G. A. Cottrell and H. A. Robertson	Baclofen exacerbates epileptic myoclonus in kindled rats	645

NUMBER 7A

A. L. Curtis and J. Marwah	Alpha adrenoceptor modulation of the jaw-opening reflex	649
M. Pašić, G. Kartelija and N. Djordjević	Interaction between some ergot alkaloids and the reactivity to dopamine of an identified neurone of *Helix pomatia*	657
S. Hashimoto, S. Okuyama and H. Aihara	Effects of apomorphine and (±)-3-(3-hydroxyphenyl)-*N*-*n*-propylpiperidine, injected into the striatum, on the caudate spindle in the rat	663
B. Costall, A. M. Domeney, S. J. Gunning, M. E. Kelly, R. J. Naylor, V. Nohria J. B. Owera-Atepo, K. M. Simpson, C. C. W. Tan and D. Tattersall	The action of dazopride to enhance gastric emptying and block emesis	669
T. E. Robinson, Jill B. Becker, Elizabeth A. Young, Huda Akil and E. Castaneda	The effects of footshock stress on regional brain dopamine metabolism and pituitary β-endorphin release in rats previously sensitized to amphetamine	679
J. C. Barnes, N. J. G. Barnes, N. M. Barnes, B. Costall, A. M. Domeney and R. J. Naylor	Ketotifen can antagonise changes in sensitivity of cerebral dopamine receptors: behavioural correlates in rodent and primate	693
V. Cuomo, R. Cagiano, G. Renna, M. A. De Salvia and G. Racagni	Ultrasonic vocalization in rat pups: effects of early postnatal exposure to SCH 23390 (a DA_1-receptor antagonist) and sulpiride (a DA_2-receptor antagonist)	701
G. A. Gudelsky, J. I. Koenig and H. Y. Meltzer	Selective desensitization of serotonin (5-HT) receptor-mediated hyperthermia by mianserin and other 5-HT antagonists	707
G. Maura, M. Ulivi and M. Raiteri	(−)-Propranolol and (±)-cyanopindolol are mixed agonists–antagonists at serotonin autoreceptors in the hippocampus of the rat brain	713
B. A. Heidenreich, Allison E. Basse-Tomusk and G. V. Rebec	Serotonergic dorsal raphe neurons: subsensitivity to amphetamine with long-term treatment	719
G. Bagetta, S. Sakurada, M. T. Corasaniti, F. Froio and G. Nisticò	Behavioural and electrocortical changes induced by muscimol in rats withdrawn from chronic treatment with diazepam	725

P. P. McCaslin and W. W. Morgan	2-Amino-7-phosphonoheptanoic acid, a selective antagonist of *N*-methyl-D-aspartate, prevents barbital withdrawal-induced convulsions and the elevation of cerebellar cyclic GMP in dependent rats	731
A. M. Zarkovsky	Bicuculline-sensitive and insensitive effects of THIP on the binding of [^{3}H]flunitrazepam	737
R. W. Snow and D. Weinreich	Presynaptic and postsynaptic effects of histamine and histamine agonists in the superior cervical ganglion of the rat	743
A. Dray and L. Nunan	Mu and delta opioid ligands inhibit reflex contractions of the urinary bladder in the rat by different central mechanisms	753
M. Yamamoto and M. Shimizu	Cerebral activating properties of indeloxazine hydrochloride	761
Preliminary Notes		
J. D. Brioni and O. A. Orsingher	Perinatal undernutrition alters hypothermic responses to different central agonists in recovered adult rats	771
P. Loo, A. Braunwalder and P. L. Wood	Benzodiazepine receptor modulation of [^{35}S]TBPS binding to the chloride channel. Noncompetitive inhibition of classical benzodiazepines and competitive inhibition of the partial agonist, CGS 9895, by CGS 8216	775
J.-M. Mienville and S. Vicini	A pyridazinyl derivative of gamma-aminobutyric acid (GABA), SR 95531, is a potent antagonist of Cl^- channel opening regulated by $GABA_A$ receptors	779
A. N. M. Schoffelmeer, P. F. H. M. Verheijden, F. Hogenboom, A. H. Mulder and J. C. Stoof	Opioid and D-2 receptor mediated inhibition of forskolin-stimulated cyclic AMP efflux from rat neostriatal slices	785
C. Reavill, C. E. Spivak, I. P. Stolerman and J. A. Waters	Isoarecolone can inhibit nicotine binding and produce nicotine-like discriminative stimulus effects in rats	789

NUMBER 7B

Proceedings of the 25th Anniversary Symposium

FRONTIERS IN NEUROPHARMACOLOGY

G. K. Aghajanian and Y.-Y. Wang	Common α_2- and opiate effector mechanisms in the locus coeruleus: intracellular studies in brain slices	793
K. E. Moore, K. T. Demarest and K. J. Lookingland	Stress, prolactin and hypothalamic dopaminergic neurons	801
Maria Hadjiconstantinou and N. H. Neff	Is dopamine a transmitter in the periphery?	809
A. R. Green	Evolving concepts on the interactions between antidepressant treatments and monoamine neurotransmitters	815
C. Routledge and C. A. Marsden	Adrenaline in the CNS: *in vivo* evidence for a functional pathway innervating the hypothalamus	823
E. Giacobini, S. Somani, M. McIlhany, M. Downen and M. Hallak	Pharmacokinetics and pharmacodynamics of physostigmine after intravenous administration in beagle dogs	831
E. A. Barnard, G. Bilbe, K. Houamed, S. J. Moss, C. Van Renterghem and T. G. Smart	Functional expression in the *Xenopus* oocyte of messenger ribonucleic acids encoding brain neurotransmitter receptors: further characterisation of the implanted GABA receptor	837
G. H. Travis, C. G. Naus, J. H. Morrison, F. E. Bloom and J. G. Sutcliffe	Subtractive cloning of complementary DNAs and analysis of messenger RNAs with regional heterogeneous distributions in primate cortex	845
I. Mocchetti and E. Costa	*In vivo* studies of the regulation of neuropeptide stores in structures of the rat brain	855
P. W. Gray	Molecular biology of diazepam binding inhibitor	863

I. P. Stolerman, J. D. Stephenson and R. J. Rauch	Classification of opioid and 5-hydroxytryptamine receptors by means of discriminative drug effects	867
Sandra E. File	The contribution of behavioural studies to the neuropharmacology of anxiety	877
J. A. Harvey	Behavioral pharmacology of central nervous system stimulants	887
T. W. Robbins and B. J. Everitt	Comparative functions of the central noradrenergic, dopaminergic and cholinergic systems	893
G. N. Woodruff, A. C. Foster, R. Gill, J. A. Kemp, E. H. F. Wong and L. L. Iversen	The interaction between MK-801 and receptors for *N*-methyl-D-aspartate: functional consequences	903
M. J. Kuhar	Imaging receptors for drugs in neural tissue	911
S. Roy and H. H. Loh	Biological activity of mu opioid receptor	917
M. A. Simmonds and J. P. Turner	Potentiators of responses to activation of γ-aminobutyric acid ($GABA_A$) receptors	923
P. Jenner and C. D. Marsden	Chronic pharmacological manipulation of dopamine receptors in brain	931
J. L. Barker, B. Dufy, N. L. Harrison, D. G. Owen and J. F. MacDonald	Signal transduction mechanisms in cultured CNS neurons and clonal pituitary cells	941
I. L. Martin	The benzodiazepines and their receptors: 25 years of progress	957
A. C. Cuello	Peptides as neuromodulators in primary sensory neurons	971
R. S. Duman and S. J. Enna	Modulation of receptor-mediated cyclic AMP production in brain	981
Linda L. Werling, S. R. Brown and B. M. Cox	Opioid receptor regulation of the release of norepinephrine in brain	987
J. M. Musacchio, Martine Klein and Lucia J. Santiago	Allosteric modulation of dextromethorphan binding sites	997
B. S. Bunney	Central dopamine–peptide interactions: electrophysiological studies	1003
C. Ferrarese, H. Alho, A. Guidotti and E. Costa	Co-localization and co-release of GABA and putative allosteric modulators of GABA receptor	1011
A. G. Karczmar	Introduction to the session on modulators	1019
P. G. Waser and Karin Rimvall	Subtypes of muscarinic receptors in cultured explants of the hippocampus of the rat	1027

NUMBER 8

W. Koller, G. Herbster, D. Anderson, R. Wack and J. Gordon	Quinpirole hydrochloride, a potential anti-Parkinsonism drug	1031
A. Kazandjian, C. Spyraki, A. Sfikakis and D. D. Varonos	Apomorphine-induced behaviour during the oestrous cycle of the rat	1037
G. Bagetta, M. T. Corasaniti, M. C. Strongoli, S. Sakurada and G. Nisticò	Behavioural and ECoG spectrum power effects after intraventricular injection of drugs altering dopaminergic transmission in rats	1047
Marina E. Wolf and R. H. Roth	Dopamine neurons projecting to the medial prefrontal cortex possess release-modulating autoreceptors	1053
Marjorie Hong, G. J. Kilpatrick, P. Jenner and C. D. Marsden	Effects of continuous administration for 12 months of amine-depleting drugs and chlorpromazine on striatal dopamine function in the rat	1061
T. J. Feuerstein, A. Lupp and G. Hertting	The serotonin (5-HT) autoreceptor in the hippocampus of the rabbit: role of 5-HT biophase concentration	1071
M. D. Wood	Examination of the relationship between the uptake site for 5-hydroxytryptamine and the high affinity binding site for [^{3}H]imipramine II. The role of sodium ions	1081

D. Graham, L. Tahraoui and S. Z. Langer	Effect of chronic treatment with selective monoamine oxidase inhibitors and specific 5-hydroxytryptamine uptake inhibitors on [^{3}H]paroxetine binding to cerebral cortical membranes of the rat	1087
D. Graham and S. Z. Langer	[^{3}H]Tryptamine binding sites of rat cerebral cortex: pharmacological profile and plasticity	1093
F. Chaouloff, D. Laude, D. Merino, B. Serrurrier, Y. Guezennec and J. L. Elghozi	Amphetamine and α-methyl-*p*-tyrosine affect the exercise-induced imbalance between the availability of tryptophan and synthesis of serotonin in the brain of the rat	1099
M. W. Warenycia, G. M. McKenzie, M. Murphy and J. C. Szerb	The effects of cortical ablation on multiple unit activity in the striatum following dexamphetamine	1107
J. S. Andrews and S. G. Holtzman	Effects of naloxone and diprenorphine on amphetamine-stimulated behavior in guinea pigs and rats	1115
P. K. Eide, O.-G. Berge and S. Hunskaar	Test-dependent changes in nociception after administration of the putative serotonin antagonist metitepin in mice	1121
M. E. Newman, M. Lipot and B. Lerer	Differential effects of chronic administration of desipramine on the cyclic AMP response in cortical slices and membranes in the rat	1127
D. J. Heal, L. J. Bristow, J. M. Elliott, J. G. Bloomfield, L. C. Catto and C. K. Atterwill	The influence of L-triiodothyronine (T_3) on the effects of repeated administration of desipramine or electroconvulsive shock on α_2- and β-adrenoceptor function in the brain of the rat: implications for the potentiation of antidepressant therapy by T_3	1131
S. Das and H. N. Bhargava	Inhibition of [^{3}H][3-MeHis^2]thyrotropin releasing hormone recognition sites in the rat brain by tifluadom, a kappa opiate receptor agonist	1141
K. C. F. Fone, G. W. Bennett and C. A. Marsden	Involvement of catecholaminergic neurones and α-adrenoceptors in the wet-dog shake and forepaw licking behaviour produced by the intrathecal injection of an analogue of thyrotrophin-releasing hormone (CG 3509)	1147
D. B. Beleslin and M. Štrbac	Noradrenaline-induced emesis. Alpha-2 adrenoceptor mediation in the area postrema	1157
S. J. Lewis, A. J. M. Verberne, M. R. Fennessy and B. Jarrott	Concentrations of histamine in the hypothalamus of the rat: effect of extraction volume and interpretation of the effects of acutely-administered morphine	1167
Patricia Szot, R. C. Sanders and T. F. Murray	Theophylline-induced upregulation of A_1-adenosine receptors associated with reduced sensitivity to convulsants	1173
S. Sagratella, C. Frank and Arsenia Scotti de Carolis	Effects of ketamine and (+)cyclazocine on 4-aminopyridine and "magnesium free" epileptogenic activity in hippocampal slices of rats	1181
G. R. Stoner, L. R. Skirboll and D. W. Hommer	Differential effects of an anxiogenic β-carboline on single unit activity in the locus coeruleus and substantia nigra of the rat brain	1185
K. L. Wood, J. I. Addae, P. L. R. Andrews and T. W. Stone	Injection of baclofen into the ventromedial hypothalamus stimulates gastric motility in the rat	1191
C. M. Bradshaw, R. D. Sheridan and E. Szabadi	Involvement of M_1-muscarinic receptors in the excitation of neocortical neurones by acetylcholine	1195
R. L. Dennison Jr, Betty L. Anthony, T. K. Narayanan and R. S. Aronstam	Effects of halothane on high affinity agonist binding and guanine nucleotide sensitivity of muscarinic acetylcholine receptors from brain-stem of rat	1201
M. Magnani, A. Florian, F. Casamenti and G. Pepeu	An analysis of cholecystokinin-induced increase in acetylcholine output from cerebral cortex of the rat	1207
P. J. Kulkosky, M. R. Sanchez, Nancy Chiu and G. W. Glazner	Characteristics of bombesin-induced inhibition of intake of ethanol	1211
Rosalind A. LeFeuvre, Nancy J. Rothwell and M J. Stock	Activation of brown fat thermogenesis in response to central injection of corticotropin releasing hormone in the rat	1217
R. M. Joy, S. M. Vogel and T. Narahashi	Effects of lindane upon transmitter release and end-plate responsiveness in the neuromuscular junction of the frog	1223

Preliminary Notes

V. Fuchs, H. Coper and H. Rommelspacher — The effect of ethanol and haloperidol on dopamine receptor (D2) density 1231

A. H. Dickenson and Ann F. Sullivan — Evidence for a role of the NMDA receptor in the frequency dependent potentiation of deep rat dorsal horn nociceptive neurones following C fibre stimulation 1235

F. Hefti — (1S, 2R)-5-methoxy-1-methyl-2-(n-propylamino)tetralin ([+]-AJ-76) elevates transmitter synthesis in dopaminergic neurones surviving a partial nigrostriatal lesion 1239

A. J. M. Verberne, M. Costa, S. J. Lewis, W. J. Louis and P. M. Beart — The N-methyl-D-aspartate (NMDA) receptor antagonist MK-801, attenuates the Bezold–Jarisch reflex in the anaesthetized rat 1243

NUMBER 9

D. J. Braitman and J. T. Coyle — Inhibition of [^{3}H]kainic acid receptor binding by divalent cations correlates with ion affinity for the calcium channel 1247

D. J. Smith, R. L. Bouchal, C. A. deSanctis, P. J. Monroe, J. B. Amedro, J. M. Perrotti and T. Crisp — Properties of the interaction between ketamine and opiate binding sites *in vivo* and *in vitro* 1253

W. Koek, J. H. Woods, M. V. Mattson, A. E. Jacobson and P. J. Mudar — Excitatory amino acid antagonists induce a phencyclidine-like catalepsy in pigeons: structure-activity studies 1261

T. V. Dunwiddie and Charlotte Alford — Electrophysiological actions of phencyclidine in hippocampal slices from the rat 1267

A. Gratton, B. J. Hoffer and R. Freedman — Electrophysiological effects of phencyclidine in the medial prefrontal cortex of the rat 1275

A. E. Panerai, L. C. Rovati, M. Bianchi, S. R. Bareggi and P. Mantegazza — Effect of a cholecystokinin antagonist on some effects of diazepam 1285

K. Takahasi, T. Sakurada, S. Sakurada, H. Kuwahara, A. Yonezawa, R. Ando and K. Kisara — Behavioural characterization of substance P-induced nociceptive response in mice 1289

Ingrid Nylander and L. H. Terenius — Dopamine receptors mediate alterations in striato-nigral dynorphin and substance P pathways 1295

A. P. Leccese and W. H. Lyness — Lesions of dopamine neurons in the medial prefrontal cortex: effects on self-administration of amphetamine and dopamine synthesis in the brain of the rat 1303

K. Polgár, I. Máté, M. Till and J. I. Székely — Modulation by enkephalin analogues and neuroleptics of apomorphine-induced stereotypy and turning behaviour in rats 1309

C. Saligaut, M. Daoust, N. Moore and F. Boismare — Circling behaviour in rats with unilateral lesions of the nigrostriatum induced by 6-hydroxydopamine: changes induced by oral administration of cytidine-5′-diphosphocholine 1315

B. Costall, A. M. Domeney, R. J. Naylor and F. D. Tattersall — Emesis induced by cisplatin in the ferret as a model for the detection of anti-emetic drugs 1321

N. J. G. Barnes, B. Costall, A. M. Domeney and R. J. Naylor — Behavioural consequences of the infusion of dopamine into the nucleus accumbens of the common marmoset (*Callithrix jacchus*) 1327

G. Debonnel and C. de Montigny — Pipequaline acts as a partial agonist of benzodiazepine receptors: an electrophysiological study in the hippocampus of the rat 1337

N. Koshikawa, M. J. Durcan, K. Weaver, K. Lawrence and I. C. Campbell — Subcellular distribution of β-adrenoceptors in brain following administration of antidepressant drugs 1343

V. E. V. St. Omer and F. K. Mohammad — Ontogeny of swimming behavior and brain catecholamine turnover in rats prenatally exposed to a mixture of 2,4-dichlorophenoxyacetic and 2,4,5-trichlorophenoxyacetic acids 1351

P.-A. Lavoie	Penfluridol, chlorprothixene and haloperidol block fast axonal transport in an order of potency consistent with a mechanism related to inhibition of calmodulin	1359
P. L. R. Andrews and J. Hawthorn	Evidence for an extra-abdominal site of action for the 5-HT_3 receptor antagonist BRL24924 in the inhibition of radiation-evoked emesis in the ferret	1367
H. Ono, M. Miyamoto, M. Kobayashi and H. Fukuda	5-Hydroxytryptamine agonistic action of methysergide and the absence of supersensitivity to 5-HT agonists in spinal flexor reflexes in rats	1371
Elisabeth Hansson, P. Simonsson and C. Alling	5-Hydroxytryptamine stimulates the formation of inositol phosphate in astrocytes from different regions of the brain	1377
J. D. Geiger, J. L. Lewis, C. J. MacIntyre and J. I. Nagy	Pharmacokinetics of 2′-deoxycoformycin, an inhibitor of adenosine deaminase, in the rat	1383
T. Takatani, M. Sasa, A. Akaike and S. Takaori	Inhibitory effects of thyrotropin-releasing hormone on neuronal activity in the nucleus accumbens	1389
A. Chan, Risa M. Webb, C.-M. Yang and C.-B. Jin	The effect of estrogen on luteinizing hormone-releasing hormone binding sites in hypothalamic membranes	1395
M. Kubota, H. Namba, K. Sunami, A. Yamaura, H. Makino, S. Murano, T. Nishikawa, T. Oheda, Y. Saito and S. Yoshida	The effects of mazindol on local cerebral glucose utilization in rats	1403
M.-C. Tsai and M.-L. Chen	The effect of carbamazepine on the post-tetanic twitch tension in the diaphragm of the mouse	1409
A. K. Mehta and M. K. Ticku	Baclofen induces catatonia in rats	1419
G. B. De Sarro, V. Libri, C. Ascioti, R. Testa and G. Nistico	Anticonvulsant effect of denzimol in DBA/2 mice	1425
F. C. Colpaert	Pharmacological characteristics of tremor, rigidity and hypokinesia induced by reserpine in rat	1431
P. Brodin and L. A. Skoglund	Effects of salicylates and paracetamol compared to lidocaine on nerve conduction *in vitro*	1441
Preliminary Notes		
J. D. Leander	Buprenorphine has potent kappa opioid receptor antagonist activity	1445
J. Segovia and M. Garcia-Munoz	Changes in the activity of GAD in the basal ganglia of the rat after striatal dopaminergic denervation	1449
Announcement		i

NUMBER 10

T. Nabeshima, K. Matsuno, A. Sugimoto and T. Kameyama	Antinociceptive activity induced by tizanidine and α_2-adrenoreceptors	1453
E. Mogilnicka, M. Zazula and K. Wędzony	Functional supersensitivity to the α_1-adrenoceptor agonist after repeated treatment with antidepressant drugs is not conditioned by β-down-regulation	1457
T. Tadano, S. Satoh, K. Kisara, Y. Arai and H. Kinemuchi	Involvement of alpha-adrenoceptors in *para*-hydroxyamphetamine-induced head-twitch response	1463
L. Cervo and R. Samanin	Evidence that dopamine mechanisms in the nucleus accumbens are selectively involved in the effect of desipramine in the forced swimming test	1469
K. Thermos, J. D. Winkler and B. Weiss	Comparison of the effects of fluphenazine-*N*-mustard on dopamine binding sites and on behavior induced by apomorphine in supersensitive mice	1473
M. R. Marien, R. Gerber, W. C. Boyar and C. A. Altar	Injections of deuterated tryptamine into the nucleus accumbens of the rat: effects on locomotor activity and monoamine metabolism	1481
K. Yamaguchi, T. Nabeshima, K. Ishikawa, S. Yoshida and T. Kameyama	Phencyclidine-induced head-weaving and head-twitch through interaction with 5-HT_1 and 5-HT_2 receptors in reserpinized rats	1489

Z. Q. Zhao and A. W. Duggan	Clonidine and the hyper-responsiveness of dorsal horn neurones following morphine withdrawal in the spinal cat	1499
S. Khatami, Paula L. Hoffman, T. Shibuya and B. Salafsky	Selective effects of ethanol on opiate receptor subtypes in brain	1503
P. Hantraye, E. Brouillet, B. Guibert, C. Chavoix, H. Fukuda, C. Prenant, M. Crouzel, R. Naquet and M. Maziere	Phentylenetetrazol-induced seizure is not mediated by benzodiazepine receptors *in vivo*	1509
D. J. Sanger and B. Zivkovic	Investigation of the development of tolerance to the actions of zolpidem and midazolam	1513
O. C. Snead III and A. C. Nichols	γ-Hydroxybutyric acid binding sites: evidence for coupling to a chloride anion channel	1519
E. Marmo, W. Filippelli, R. Marrazzo, S. Russo, M. Cazzola, C. Vacca and F. Rossi	Participation of GABAergic mechanisms in the hypotensive and bradycardic effects of clonidine: experimental study in conscious normotensive and hypertensive rats	1525
H. F. Miranda, Gil M. Moreu, P. A. Santiago and W. W. Wolstenholme	Castration and tolerance induces changes in the levels of the activity of acetylcholinesterase in the isolated vas deferens of the rat	1529
Britta Hedlund	Alaproclate inhibits potassium currents and thereby enhances muscarinic stimulation in N1E-115 neuroblastoma cells	1535
Preliminary Notes		
E. S. Vizi, F. Oberfrank, S. Bernath and D. Lichtstein	Noradrenaline releasing effect of an ouabain-like compound on pulmonary artery	1541
Cynthia M. Harris, D. Benjamin and H. Lal	Anxiety-like subjective effect of ethanol antagonist RO 15-4513 demonstrated in pentylenetetrazol discrimination	1545

NUMBER 11

C. A. Yarosh and J. H. Ashe	Antagonist discrimination of two muscarinic responses elicited by applied agonists and orthodromic stimuli in superior cervical ganglion of rabbit	1549
G. Böhmer, K. Schmid, P. Schmidt and J. Stehle	Cholinergic effects on spike-density and burst-duration of medullary respiration-related neurones in the rabbit: an iontophoretic study	1561
E. D. Hall and P. F. Von Voigtlander	Facilitatory effects of piracetam on excitability of motor nerve terminals and neuromuscular transmission	1573
G. Hewson, R. G. Hill, J. Hughes, Glynis E. Leighton and Wendy D. Turner	The kappa agonists PD117302 and U50488 produce a biphasic effect on 24 hour food intake in the rat	1581
P. L. Wood, Helen S. Kim, Cristina Cosi and S. Iyengar	The endogenous kappa agonist, dynorphin(1-13), does not alter basal or morphine-stimulated dopamine metabolism in the nigrostriatal pathway of the rat	1585
R. N. Pechnick and G. W. Terman	The role of opiate receptors in the potentiation of pentobarbital sleeping time by the acute and chronic administration of opiates	1589
P. M. Dougherty, J. Pearl, K. J. Krajewski, N. R. Pellis and N. Dafny	Differential modification of morphine and methadone dependence by interferon alpha	1595
C. Rouillard, P. J. Bédard, P. Falardeau and Thérèse Dipaolo	Behavioral and biochemical evidence for a different effect of repeated administration of L-DOPA and bromocriptine on denervated versus non-denervated striatal dopamine receptors	1601
S. Ofori and M. Schorderet	Effects of 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP) on dopamine synthesis and release in the rabbit retina *in vitro*	1607
N. A. Young, S. J. Lewis, Q. L. G. Harris, B. Jarrott and F. J. E. Vajda	The development of tolerance to the anticonvulsant effects of clonazepam, but not sodium valproate, in the amygdaloid kindled rat	1611

G. L. Brammer, M. J. Raleigh, M. T. McGuire and E. H. Rubinstein — Comparison of ketamine, physical restraint, halothane and pentobarbital: lack of influence on serotonergic measures in monkeys and rats 1615

A. Z. Rónai, Julianna Kardos and M. Simonyi — Potent inhibitory $GABA_B$ receptors in stimulated guinea-pig taenia coli 1623

S. Wimolwattanapun, T. K. Ghosh, S. Mookherjee, R. L. Copeland Jr and S. N. Pradhan — Effects of inhalation of xylene on intracranial self-stimulation behavior in rat 1629

P. J. Boyd, N. N. Osborne and R. J. Walker — Localization of ARG-vasopressin-like material in central neurones and mechanism of action of ARG-vasotocin on identified neurones of the snail *Helix aspersa* 1633

Preliminary Notes

T. Kaneko, T. P. Hicks and L. Bauce — Mugineic acid: non-selective enhancement of excitatory amino acid actions on rat central neurones 1649

S. A. Signs, B. K. Yamamoto and M. D. Schechter — *In vivo* electrochemical determination of extracellular dopamine in the caudate of freely-moving rats after a low dose of ethanol 1653

D. M. Stone, G. R. Hanson and J. W. Gibb — Differences in the central serotonergic effects of methylenedioxymethamphetamine (MDMA) in mice and rats 1657

L. Barthó, P. Holzer and F. Lembeck — Is ganglionic transmission through nicotinic receptors essential for the peristaltic reflex in the guinea-pig ileum? 1663

NUMBER 12

J. D. Lee and J. C. Shih — Evidence for two conformational states of 5-hydroxytryptamine carrier in rat cortical synaptosomes 1667

C. Szostak, J. M. Finlay and H. C. Fibiger — Intravenous self-administration of the short-acting benzodiazepine midazolam in the rat 1673

Donna M. Stone, K. M. Merchant, G. R. Hanson and J. W. Gibb — Immediate and long-term effects of 3,4-methylenedioxymethamphetamine on serotonin pathways in brain of rat 1677

J. M. Stein, R. W. Lind and A. K. Johnson — Central serotonergic influences on renal electrolyte and water excretion 1685

P. F. Morgan, E. Tamborska, J. Patel and P. J. Marangos — Interactions between calcium channel compounds and adenosine systems in brain of rat 1693

Susan E. Robinson — Cardiovascular effects of cholinergic agents in the ventral-lateral midbrain periaqueductal gray of the rat 1701

H. Kobayashi, A. Yuyama, M. Ishihara and N. Matsusaka — Effects of arsenic on cholinergic parameters in brain *in vitro* 1707

M. T. Molinero and J. Del Rio — Substance P, nicotinic acetylcholine receptors and antinociception in the rat 1715

H. Pasantes-Morales, M. E. Arzate, O. Quesada and R. J. Huxtable — Higher susceptibility of taurine-deficient rats to seizures induced by 4-aminopyridine 1721

D. Benjamin, M. W. Emmett-Oglesby and H. Lal — Modulation of the discriminative stimulus produced by pentylenetetrazol by centrally administered drugs 1727

A. Gulati, R. C. Srimal, K. N. Dhawan and B. N. Dhawan — On the mechanism of potentiation of apomorphine-induced stereotypy due to electroconvulsive shock 1733

S. O. Idemudia, Diane A. Mathis and H. Lal — Enhancement of a diazepam withdrawal symptom by bicuculline and yohimbine 1739

J. Taguchi and K. Kuriyama — Functional coupling of γ-aminobutyric acid $(GABA)_A$ and benzodiazepine type II receptors: analysis using purified GABA/benzodiazepine receptor complex from bovine cerebral cortex 1745

A. Lehmann — Pharmacological protection against the toxicity of *N*-methyl-D-aspartate in immature rat cerebellar slices 1751

Mary J. Clark and F. Medzihradsky — Coupling of multiple opioid receptors to GTPase following selective receptor alkylation in brain membranes 1763

T. Smock	Effects of $ACTH_{(1-24)}$ on single unit activity in the brainstem of the rat	1771
Jiadi Feng and J. M. Lipton	Eugenol: antipyretic activity in rabbits	1775
Preliminary Notes		
A. M. Szekely, M. L. Barbaccia and E. Costa	Activation of specific glutamate receptor subtypes increases c-fos proto-oncogene expression in primary cultures of neonatal rat cerebellar granule cells	1779
R. Dal Toso, M. A. De Bernardi, E. Costa and I. Mocchetti	Beta-adrenergic receptor regulation of NGF-mRNA content in rat C_6-2B glioma cells	1783
B. J. Key and R. F. Loudon	Involvement of 5-hydroxytryptamine in the blood pressure changes evoked by electrical stimulation of the median raphe nucleus	1787
G. E. DeLander and C. J. Hopkins	Interdependence of spinal adenosinergic, serotonergic and noradrenergic systems mediating antinociception	1791
P. Cumming, H. Kamo, E. G. McGeer and P. L. McGeer	Toxicity of p-methoxyphenol to dopamine neurons in the rat substantia nigra	1795
R. G. Fariello, O. Ghirardi, A. Peschechera, M. T. Ramacci, and L. Angelucci	Transient nigral ubiquinone depletion after single MPTP administration in mice	1799
M. P. Johnson, A. J. Hoffman, D. E. Nichols and C. A. Mathis	Binding to the serotonin 5-HT_2 receptor by the enantiomers of ^{125}I-DOI	1803
Kathy M. O'Boyle and J. L. Waddington	New substituted 1-phenyl-3-benzazepine analogues of SK&F 38393 and N-methyl-thienopyridine analogues of dihydroxynomifensine with selective affinity for the D-1 dopamine receptor in human post-mortem brain	1807
E. Sanna and I. Hanbauer	Isolation from rat brain tissue of an inhibiting activity for dihydropyridine binding sites and voltage-dependent Ca^{2+} uptake	1811
M. L. Vargas, J. M. Musacchio, M. Bansinath, H. Turndorf and M. M. Puig	Naloxone elicits an excitatory response in the morphine-tolerant mouse vas deferens	1815